International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

Stock Splits and Performance of Firms Listed at the Nairobi Securities Exchange, Kenya

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Abstract

In Kenya, studies have been undertaken in the past on firm performance responses to event announcements. But, the effects of stock splits on firm security returns at the Nairobi Securities Exchange (NSE) have not been exhaustively dealt with due to lack of enough information and the fact that it is a new mission of listed firms. Due to the small number of firms that have split stocks, the target population for the study included all listed firms that have split their stock between the years 2004 to 2013 effectively adopting the census sampling technique. The purpose of the study was to determine whether stock split events have a significant effect on shares turnover. The changes in stock price over a window period of twenty one (21) days was considered appropriate due to the reliability of short horizons in corporate policy decisions. The trading activity ratio (TAR) model was used to analyse the research data and the mean difference obtained and tested for significance using student t - statistic at 95% confidence level. The results show that splitting firms in Kenya had their shares traded improve immediately after the event announcement. This was because the shares turnover of six out of nine firms under the study had their TAR mean (μ) values increase immediately after the share split. The reduced share prices after the stock split announcement implied affordability by the retail investors which eventually improved the trading activity.

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The improved trading activity was found to be consistent with the liquidity hypothesis where firms broaden their shareholder base by making more shares available to retail investors. It was also found that seven out of nine firms had a significant t - statistic at 95% confidence level suggesting that stock split exercise had a positive influence on the trading activity. This was consistent with the optimal trading range hypotheses which states that firms' improve liquidity by lowering the share prices to allow affordability by a larger pool of investors. The results therefore suggested a positive market reaction to stock split announcements. It was recommended that regulators ought to amend the existing regulations to encourage more firms undergo stock split as there is a proof that it improves firm performance.

Keywords: Liquidity; Signaling; Stock split; Trading Activity Ratio.

1. Introduction

Stock splits and stock prices have been a subject of continuing interest to both economists and practitioners' a like [16] and when firms split their stock, they make them more attractive for the individual investors [14, 7 & 21]. In theory stock splits are merely an accounting change, which leaves investors no better or worse off than they were before the split [10] as it only results in a reduction of the par value and a consequent increase in the number of shares proportion to the split while all other capital accounts remain unchanged. Theoretically, shareholders receive no tangible benefits from stock split though there are some costs associated with it. However, corporate managers may interpret stock split as more than an arithmetic exercise and may have other motives for issuing them [3].

Although stock splits appear not to contribute to firm value, there are some suggestions that support stock split as a signaling device. Reference [11] suggested that splits act as a means of passing information from managers to stockholders and by announcing splits, a company reduces any information asymmetries that might have existed between stockholders and management. Some hypothesis considered that there is an optimal trading range of stocks and stock splits help adjust stock prices to be within optimal range. Reference [8] noted that firms split their stock to keep stock prices within an optimal trading range. An increase in trading volume either from signaling or optimal trading range enhanced stock prices eventually. The idea of an optimal trading range is widely supported by other practitioners who generally state that a lower share price makes it easier for smaller investors to hold shares [21]. A stock split results in an activity increase in shares traded and in turn increases the volatility of the share prices. Liquidity is also increased by the share split and reduced by the reverse-split but there is no clear cut evidence that market attaches any value to this change in liquidity [15].

The motivations behind splitting are mostly believed that it improves liquidity and marketability of shares apart from attracting a wider and more diversified pool of financiers. Artificially, decreasing the share price could make shares more available to small investors allowing them to trade easily, or to take advantage of the enhanced liquidity. All these effects consequently lead to increase in the firm value [4]. Reference [2] came up with the Optimal Tick Size Hypothesis or the Market-Maker Hypothesis which suggested that companies strived for an optimal tick size and if there is a constant absolute tick size, management of a firm could influence the relative tick size through a stock split.

In Kenya, the concept of stock split was approved by the Capital Market Authority (CMA) in June 2004 and entrenched in the NSE listing manual. This was as a result of the pushing for the adoption by the then NSE chairman Mr. Jimna Mbaru [19]. Among the reasons for pushing for its adoption was as a result of the stock boom in the year 2004 when stock prices rose by 100%. The reasons for the adoption of stock split at the NSE are in agreement with the optimal trading range hypothesis suggested by [8].

Companies such as Kenol-Kobil, East African Cables, East African Breweries, Industrial and Commercial Development Corporation (ICDC) and Barclays Bank of Kenya (BBK) who had highly priced shares opted to split their shares to make them affordable to the public, investors and to benefit the company. However, the extent to which this serves its goal is yet to be seen. Another firm that opted to split its shares despite the low price of shares was the Sasini Tea and Coffee (now Sasini Ltd). All counters other than Sasini Ltd were trading at over Ksh.200 prior to the announcement of the split. Sasini Ltd was at a high of Ksh. 185 prior to the announcement [26].

Therefore, it is apparent that there are several theories that have been advanced by researchers and managers to explain why companies split their stock. The most common ones are to achieve optimal price range, information signaling, to improve firm liquidity and obtain optimal tick size. From the argument elaborated, it can be noted that a lot has been said about stock split including the lack of agreement in theories as advocated by different scholars. Therefore, this paper contributes to the existing literature by providing empirical evidence on the effect of stock split on trading activity ratio (TAR) at the Kenyan Stock Market scenario. The analysis and discussion of the results further affirms some of the theories and hypotheses as put forward by earlier scholars.

The outline of the paper is as follows. Section one will cover the introduction which will elaborate the background, theory and literature. Section two will cover the objectives and the hypotheses. The data types and data sources will be covered in section three whereas section four will cover data analysis, results discussion, conclusion and recommendations.

2. Objective and Hypothesis

The general objective of the study was to assess the effects of stock splits on firm performance at the NSE whereas the specific objective was to determine whether stock split events have a significant effect on shares turnover at the NSE. The hypothesis of the study was that stock split events have no significant effect on shares turnover for firms splitting their stocks at the NSE.

3. Knowledge Gap

Despite extensive studies, some debate surrounding the stock splits effects on firm performance has not been conclusive. According to [18], empirical evidence on stock splits was found to support both the trading range hypothesis and the signaling hypothesis. Reference [12] found that the information content of stock splits appears to be directly associated with the firm's future cash flows of which they attributed to the signaling hypothesis. Reference [20] concluded that successive changes in stock prices are independent and uncorrelated in nature and that the stock price changes are random in nature. Reference [1] on the other hand, attributed the

increased trading activity after the stock split to the signaling hypothesis. From the discussion of the various studies it was noted that there are inconsistencies on stock split results in relation to the existing theories and hypotheses. Therefore, this study was aimed at contributing to the existing literature in an effort of eliminating the inconsistencies on the true motivation of stock splits and in particular the effect of firm performance following the stock split event.

4. Literature Review

Stock splits involve the multiplication of companies' shares without affecting the value of the firm. It is a corporate action that increases the number of outstanding shares by dividing each share in proportion to their current holding. The market capitalization of shares remains the same as before the stock split. Though the action diminishes the share price it also increases the number of outstanding shares in proportion to the shareholders' current holding. For example, with a 2-for-1 stock split, each stockholder receives an additional share for each share held, but the value of each share is reduced by half hence the value of two shares equals the original value of one share before the split. The review of stock split literature is presented in two categories; that is, the competing theory and hypothesis and the review of firm performance.

4.1 Stock split theory and hypothesis

Information signaling theory: The signaling theory was proposed by [5]. Conferring to the theory, managers split the firm stock as a way of passing information to stock holders. The model argued that stock split served as a costly method of passing managers signals of private information as it results in the reduction of share prices as trading costs increase. Several other researchers have added their contribution towards the support of information signaling theory that it is an effective way of passing private information to investors. Reference [11] argued that it reduces the information asymmetries that might have existed between the management and the stockholders. The researcher therefore tried to relate performance of firms that split their stock to the information passed following stock split announcement.

Liquidity hypothesis: Through share split, firms broaden their shareholder base by making more shares available to retail investors [9]. Broadened shareholder base will eventually improve firm liquidity due to the inflow of cash occasioned by intensified trading. Reference [24] found that splits at the Kenyan market have a positive effect on liquidity though insignificant. According to [16], there is a positive market reaction at the stock split announcement and that the liquidity hypothesis explains well the rationale for the stock splits. Reference [13], found that stock split encourages retail investors to off load their shares in a bid to lock in profits occasioned by the appreciation in the value of shares after the split and market regulators should not use stock split as a tool for dispersing firm ownership but rather only for improving stock liquidity. Therefore, it is apparent that stock split increases liquidity as it lowers the nominal share price, which lowers the cost of a round lot of stock. Through the trading activity ratio (TAR) the researcher tested the hypotheses by checking on the volume of shares traded before and after the stock split event.

Optimal price range hypothesis: The optimal price range hypothesis states that firms choose the split factor as

a device to return the stock price to a preferred price range affordable to a larger pool of investors thereby improving firm liquidity for the stock [4, 15]. When stock hits the firm price target, the firm may announce a stock split signifying a certain level of success [21]. According to [3], investors discount illiquid shares more heavily than liquid shares because of the higher transaction costs. From the findings of those who contributed to the price range hypothesis it can be concluded that a lower price of shares broadens the investor mix by increasing the number of shareholders and decreasing institutional ownership of the firm due to the fact that retail investors can afford to invest in low priced shares.

Optimal tick size theory: The Optimal Tick Size is the minimum price movement of a trading instrument. The Optimal Tick Size Theory proposed by [2], claims that firms split their shares to maintain optimal relative tick size for the stocks. This argument is analogous to that of liquidity theory because it considers liquidity as well. The difference lies in two aspects; first it represents a trade-off between the benefits to investors and dealers. If tick size is too small, investors are not willing to make limit orders thus lengthen the time on bargaining and dealers have no passion to form a liquid market. On the contrary, if tick size is too large, the small investors would suffer and the dealers would benefit, thus the stock liquidity also decreases. Secondly, the difference of the optimal tick size theory is that it clearly states the possibility of coexistence of higher liquidity and higher quoted bid-ask spread [2].

4.2 Firm Performance

Shares Turnover /Trading Volume: Reference [25] defined the turnover ratio as a measure of liquidity calculated by dividing the total number of shares traded over a period by the average number of shares outstanding for the period. The turnover ratio reflects how often shares are traded between investors. Reference [6] noted that trading range hypothesis could not be corroborated as possible explanation of stocks splits in India as majority of shares which split were trading at low market prices. Reference [8] noted that the number of shareholders may increase simply because an individual who holds one round lot is more likely to sell two round lots to two people after the split. As a result, the number of shareholders increases after the split translating to increased trading volume which will trigger greater firm liquidity. Therefore, the improved firm liquidity for this case will imply firm performance. According to [26], the market perceives stock splits as good news resulting to immediate increase in share prices after the announcement indicating a positive firm performance. Reference [23] believed that stock splits affect stock returns around both the announcement day and ex-date supporting a positive firm performance.

5. Research Methodology

Secondary data for all firms that have split stock since 2004 to 2013 was obtained from NSE for the period of twenty one (21) days surrounding the stock split announcement date. Effectively the researcher adopted a census technique while sampling research data. The event-study methodology that was introduced by [11] was adopted as it measures the valuation effects of stock splits around the day of announcement. According to [17] event study has many applications in accounting and finance research. It has been applied to a variety of firm specific and economy wide events including mergers and acquisitions, earnings announcements, issues of new debt or

equity and announcements of macroeconomic variables such as the trade deficit.

The Trading Activity Ratio (TAR) ten (10) days before and after the stock split event was calculated and the results used to obtain the population mean (μ) before and after the event. To calculate the Trading Activity Ratio (TAR), the formula illustrated below was adopted.

TAR = Number of shares traded ÷ Number of tradable shares issued..... (1)

Where: TAR = Trading Activity Ratio

Trading Activity Ratio (TAR) was embraced by [1] where they plotted a graph to check for the changes before and after the stock split event. For this study the researcher used the calculated TAR to obtain the TAR mean (μ) difference for the analysis of the data. The model below was adopted to obtain the TAR mean (μ) for the 10 days before and after the stock split.

$$\bar{xi} = \sum_{i=1}^{n} xi \quad \text{..... (2)}$$

Where:

- $i = 1,2,3,.....,9$ Represents the number of firms under study
- $\bar{xi}$ = sample mean of set of x values
- n = number of data items in a sample.

Using the student t - test statistic, the researcher tested TAR mean (μ) difference for the significance at 95% confidence level. The mean (μ) difference was calculated for 10 days before and after the stock split using the model illustrated below.

$$t = \bar{x}_1 - \bar{x}_2 \Big/ \sqrt{\frac{\sigma_1^2}{n^1} + \frac{\sigma_2^2}{n^2}} \quad \text{..... (3)}$$

Where:

- $\bar{x}$ 1= sample mean x values before the stock event
- $\bar{x}$ 2 = sample mean x values after the stock split event
- σ_1^2 = represents the variance before the stock split event
- σ_2^2 = represents the variance after the stock split event
- t = test statistic

6. Results and Discussions

Descriptive and inferential statistics of TAR mean (μ) difference 10 days before and after stock split are presented below.

6.1 Descriptive statistics

For easy and better interpretation, the researcher adopted a bar chart to present TAR mean (μ) values. The figure below illustrates the TAR Mean (μ) comparison 10 days before and after stock split events for nine firms under study.

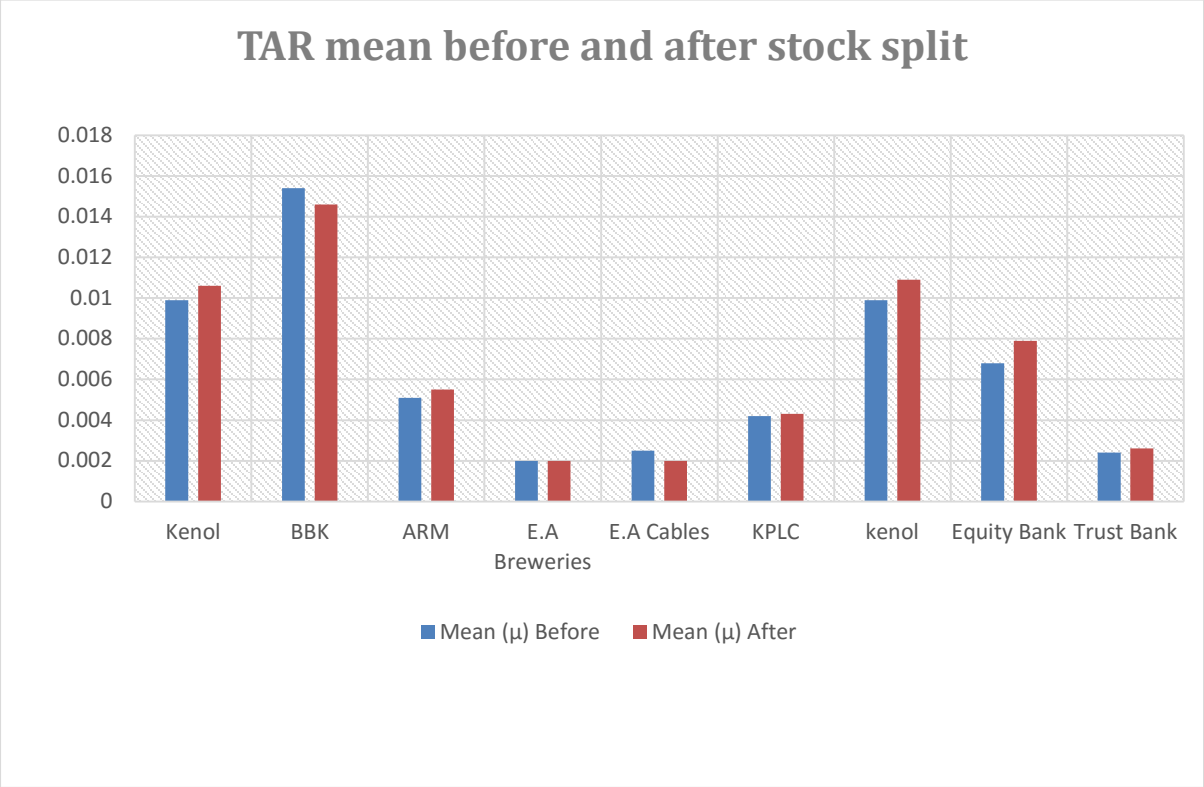

Figure 1: TAR Mean (μ) Comparison

Source: tabulated data

From the bar chart it is observed that TAR mean (μ) for all firms depicted almost the same values before and after stock split. However, it can be observed that six out of nine firms under the study had their TAR mean (μ) values increase after the split event. This could be a suggestion that shares traded increased in volume before and after the stock split event signifying an effective and efficient trading system due to the uptake of split information by the investors. It also confirms the semi-strong-form of market efficiency hypothesis. The increased shares in volume traded also indicate improved firm liquidity. This is comparable to the finding of [1] that generally there are increases in the volumes of shares traded when stock splits are announced. It is also analogous to the finding of [9] who believed that splitting stock increases market liquidity. From the bar chart it

was further observed that BBK had the highest TAR mean (μ) of 0.058 and 0.055 before and after the stock split event implying that the trading activity was more intensive some few days before and after the stock split event which is a positive response to stock split announcements.

6.2 Inferential statistics

The Trading Activity Ratios Mean (μ) Differences was tested for significance using the t-test Statistic for Equality of Means (μ). The decision was to reject the null hypothesis (H_0) if the t-statistic of the mean (μ) difference falls outside the 95% confidence level. The tabulated t-statistic at 19 degrees (N-1) of freedom was 2.093 with critical limits at -2.093 and 2.093 was then compared with the calculated t-statistic to check whether the mean (μ) differences are significant or not from student t- test. The tests are significant at 5% level of significance and have been denoted by "**". The table below illustrates TAR mean (μ) significance test for nine firms under study.

Table 1: t-test Statistic for Equality of Means (μ)

Firm	Critical Limit (-)	t-statistic calculated	Critical Limit (+)	Mean (μ) Difference	Std. deviation
ARM	-2.093	-4.347**	2.093	-0.0004	0.0001
BBK	-2.093	1.944	2.093	0.0008	0.0004
CITY Trust	-2.093	-2.163**	2.093	-0.0002	0.0001
E.A Breweries	-2.093	0.318	2.093	0.00001	0.00001
E.A Cables	-2.093	2.869**	2.093	0.0004	0.0002
Equity Bank	-2.093	-5.205**	2.093	-0.0011	0.0002
Kenol Kobil, 06	-2.093	-2.529**	2.093	-0.0007	0.0003
Kenol Kobil	-2.093	-3.337**	2.093	-0.0011	0.0003
KPLC	-2.093	-2.247**	2.093	-0.0001	0.0001

Source: tabulated data; ***Key:*** ** = significant at 5% level of significance

The t-statistic showed that Barclays Bank of Kenya (BBK) and East Africa Breweries (EAB) are within the 95% confidence level implying that their mean (μ) differences are not significant hence the null hypothesis (H_0) was accepted. The other seven firms depicted some level of significance as their t-statistics fell on either extreme sides of the rejection regions hence the null hypothesis (H_0) for those firms was rejected. This means that, there was a significant difference between the mean (μ) before and after stock split suggesting that stock split exercise had some influence on the trading activity of the firms. The finding was noted to be similar to the finding of [15] who held that the market recognizes that stock split prompts increase of shares traded. The

finding was also found to be confirming the Trading Range Hypotheses which states that firms' lowers share prices to allow affordability by a larger pool of investors so as to improve firm liquidity.

7. Conclusion, Limitations and Recommendations

The section presents the conclusion, limitations and recommendations for policy, and suggestions for further research.

7.1 Conclusion

The study results generally indicated a positive market reaction to share split announcement. The TAR mean (μ) values for Six out of nine firms under the study were observed to increase few days before and after the event announcement suggesting an increase in the volume of shares traded. The increased volume of shares traded indicated improved firm liquidity for firms splitting their shares. This is also an indication that corporate event announcements such as stock splits are absorbed quickly into the market setting the stage for intensified trading activity. The finding was noted to be supporting the information signaling theory proposed by [5], that stock split is used to pass private information to investors on the future prospects of a firm. The change in shares turnover also supported the liquidity hypothesis by [9], where firms split their shares to broaden the shareholders base making more shares available to retail investors. The change in shares turnover could also be explained by the intensified trading following the share split announcement. The TAR t-statistic for seven out of nine firms was found to be significant at 95% confidence level resulting to the rejection of the null hypothesis that stock split events have no significant effect on shares turnover for firms splitting their stocks at the NSE. The rejection implied that stock split announcements had some effect on the stock market. This was found to be consistent with the optimal trading range hypotheses where firms' lowers share prices to allow affordability of shares by a larger pool of investors hence improving firm liquidity. The results show that there is a positive market reaction as a result of stock split and firms are encouraged to undertake the stock split exercise as there is evidence that it improves firm liquidity. Therefore, it was recommended that regulators as a way of encouraging more firms to undergo stock split ought to amend the existing regulations to make it easier for firms perform stock split.

7.2 Limitations

1. Literature relating to stock splits in Kenya were inadequate due to fewer studies on the subject area. Therefore to bridge the gap, this paper utilized information obtained in other markets outside Kenya.
2. This paper only considers firms that have undergone stock splits in the Kenyan market.
3. The study was found to be expensive as it involved monetary outlay to obtain data at the Nairobi Securities Exchange.

7.3 Recommendations

1. Market regulators in Kenya to consider amending the laws to encourage more firms undergo stock split.
2. Researches are suggested to study the investor confidence after stock split events.

3. Researches are also suggested to study the correlation between firm size and stock split announcements.

Acknowledgements

I thank the Department of Prevention, Ethics and Anti-Corruption Commission, Kenya for assistance and time accorded to me during my research work.

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